REMARKS

The Office Action mailed October 19, 2005, has been received and reviewed. Claims 1 through 19 are currently pending in the application. Claims 1 through 19 stand rejected. Applicants have canceled claims 3, 7, 10, 13, 14, 16, 17, and 19. Applicants have amended claims 1, 5, 9, 15, and 18, and respectfully request reconsideration of the application with respect to the amendments and analysis presented herein.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 5,996,096 to Dell et al.

Claims 1 through 19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Dell et al. (U.S. Patent No. 5,996,096). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Regarding claim 1, Applicants have amended claim 1 such that the at least one discrete non-volatile storage device is "configured for storing data indicating a location of at least one refurbishable failure associated with at least one of the plurality of discrete memory devices, wherein the at least one refurbishable failure comprises at least one failed output, and the at least one of the plurality of discrete memory devices is repaired or replaced." With this amendment, Applicants assert that Dell et al. do not set forth each and every element of amended claim 1 as required for a 35 U.S.C §102 rejection.

The added element of "wherein the at least one refurbishable failure comprises at least one failed output," was recited in claim 3. In rejecting claim 3, the Examiner states that "Dell et al. teach the **memory module** contains at least one failed output (column 3, lines 7-35, emphasis added)." However, this is not what claim 3, and now amended claim 1 recites. Amended claim

1 recites that the at least one refurbishable failure comprises at least one failed output and that the at least one refurbishable failure is associated with at least one of the plurality of discrete memory devices. Therefore, the failed output is an output of one of the discrete memory devices, not a failed output of the memory module.

Furthermore, Applicants assert that Dell et al. do not teach a failed output of one of the discrete memory devices as what is stored in the discrete non-volatile storage device. In the portion of the Dell et al. specification indicated in the Office Action, Dell et al. states that "the tag bits indicate . . . the 3-bit (one through eight binary) chip ID of the failing chip, i.e., which location on the SIMM has the bad data at the specified row address" (col. 3, lines 16-20). This portion of the specification does not indicate that an output of a memory device has failed. Rather, it indicates that a memory device has bad data at a specified row address. In addition, Applicants can find no disclosure of a failed output of one of the discrete memory devices anywhere in the Dell et al. reference.

With respect to the second element added to amended claim 1, Applicants assert that Dell et al. do not teach that "the at least one of the plurality of discrete memory devices is repaired or replaced," as recited in amended claim 1. Claim 14 includes an element similar to this new element in claim 1. In rejecting claim 14, the Office Action states that "Dell et al. teaches repairing or replacing discrete memory devices on the memory module carrier substrate identified as having the at least one refurbishable failure (Figure 9E column 6 lines 40-49)." Applicants assert that this passage in Dell et al. does not disclose repairing or replacing discrete memory devices. Dell et al. states:

> "[i]f the fails are from address locations in the ASIC, **the ASIC is identified for replacement** in function block 118 and the module sent to repair. This could include re-mapping of the ASIC memory failures into alternate ASIC storage locations. If the fails exceed ASIC/EPROM storage limits, **the module is rejected for evaluation and possible rework** in function block 119 and the module sent to repair If the fails are from non-remapped memory locations, the EPROM is re-written in function block 120 to add new address/chip filing locations" (col. 6, lines 40-49, emphasis added).

In other words, with respect to replacement, Dell et al. discloses replacing the ASIC, not the discrete memory devices. Applicants can find no reference in Dell et al. to replacing discrete

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memory devices on the memory module. With respect to repair, Dell et al. only state that the module is rejected for evaluation and possible rework. Applicants can find no disclosure in Dell et al. as to what evaluation and possible rework may involve. In other words, it appears to Applicants that Dell et al. only teach **possible rework of the module**, not **repairing discrete memory devices**.

Furthermore, the process described in Dell et al. for avoiding failures in the memory devices is a process of remapping new memory locations to replace defective memory locations. Conversely, the present invention repairs or replaces the memory modules rather than remapping to avoid defective memory locations. For these reasons, Applicants assert that Dell et al. do not set forth each and every element of amended claim 1 as required for a 35 U.S.C §102 rejection. Therefore, Applicants respectfully request that the rejection of claim 1 be withdrawn.

Regarding claim 2, claim 2 depends from amended claim 1, which is now allowable. Therefore, at least by virtue of its dependency from amended claim 1, claim 2 is now allowable and Applicants respectfully request that the rejection of claim 2 be withdrawn.

Regarding claim 3, the subject matter of claim 3 is incorporated into amended claim 1, from which claim 3 depended. Therefore, claim 3 is canceled.

Regarding claim 4, claim 4 depends from amended claim 1, which is now allowable. Therefore, at least by virtue of its dependency from amended claim 1, claim 4 is now allowable and Applicants respectfully request that the rejection of claim 4 be withdrawn.

Regarding claim 5, Applicants have amended claim 5 in a manner similar to amended claim 1, such that the at least one discrete non-volatile storage device is "configured for storing data indicating a location of at least one refurbishable failure associated with at least one of the plurality of discrete memory devices, wherein the at least one refurbishable failure comprises at least one failed output, and the at least one of the plurality of discrete memory devices is repaired or replaced."

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With this amendment, the analysis presented above with regard to claim 1 is equally applicable to amended claim 5. For these reasons, Applicants assert that Dell et al. do not set forth each and every element of amended claim 5 as required for a 35 U.S.C §102 rejection. Therefore, Applicants respectfully request that the rejection of claim 5 be withdrawn.

Regarding claim 6, claim 6 depends from amended claim 5, which is now allowable. Therefore, at least by virtue of its dependency from amended claim 5, claim 6 is now allowable and Applicants respectfully request that the rejection of claim 6 be withdrawn.

Regarding claim 7, the subject matter of claim 7 is incorporated into amended claim 5, from which claim 7 depended. Therefore, claim 7 is canceled.

Regarding claim 8, claim 8 depends from amended claim 5, which is now allowable. Therefore, at least by virtue of its dependency from amended claim 5, claim 8 is now allowable and Applicants respectfully request that the rejection of claim 8 be withdrawn.

Regarding claim 9, Applicants have amended claim 9 in a manner similar to amended claim 1. Specifically, Applicants have added the subject matter of claims 10, 13, and 14 to amended claim 9. With these amendments, the analysis presented above with respect to claim 1 is equally applicable to claim 9. In other words, Applicants assert that the elements of "storing the identified data on the memory module, including storing identification of at least one failed output" and "repairing or replacing discrete memory devices on the memory module carrier substrate identified as having the at least one refurbishable failure," are not set forth in Dell et al., as required for a 35 U.S.C §102 rejection. Therefore, Applicants respectfully request that the rejection of claim 9 be withdrawn.

Regarding claim 10, the subject matter of claim 10 is incorporated into amended claim 9, from which claim 10 depended. Therefore, claim 10 is canceled.

Regarding claims 11 and 12, these claims depend from amended claim 9, which is now allowable. Therefore, at least by virtue of their dependency from amended claim 9, claims 11 and 12 are now allowable and Applicants respectfully request that the rejection of claims 11 and 12 be withdrawn.

Regarding claims 13 and 14, the subject matter of these claims is incorporated into amended claim 9, from which they depended. Therefore, claims 13 and 14 are canceled.

Regarding claim 15, Applicants have amended claim 15 in a manner similar to amended claim 1. Specifically, Applicants have added the subject matter of claims 17 and 19 to amended claim 15. With these amendments, the analysis presented above with respect to claim 1 is equally applicable to claim 15. In other words, Applicants assert that the elements of "storing data indicative of a location of at least one discrete memory device including at least one element which failed a test <u>wherein the at least one element includes data indicative of at least one failed output</u>" and "<u>identifying the at least one discrete memory device having the at least one failed element and repairing or replacing the at least one identified discrete memory device on the memory module substrate</u>," are not set forth in Dell et al., as required for a 35 U.S.C § 102 rejection. Therefore, Applicants respectfully request that the rejection of claim 15 be withdrawn

Regarding claims 16, 17 and 19, the subject matter of these claims is incorporated into amended claim 15, from which they depended. Therefore, claims 16, 17, and 19 are canceled.

Regarding claim 18, this claim has been amended to depend from amended independent claim 15, rather than from claim 17, which was canceled. Claim 18, at least by virtue of its dependency from amended claim 15 is now allowable and Applicants respectfully request that the rejection of claim 18 be withdrawn.
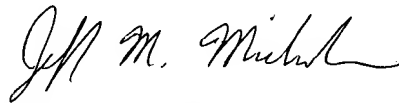
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ENTRY OF AMENDMENTS

The amendments to claims 1, 5, 9, 15, and 18 have been amended herein. above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

CONCLUSION

Claims 1, 2, 4-6, 8, 9, 11, 12, 15, and 18 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,

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